



# sUAS Operations

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Captain David Siver, Lt. Robert Veenstra, Sergeant Frank Barthel  
&  
Unmanned Vehicle Technologies (UVT)



# Priorities

## Safety

We will provide constitutional and community-focused policing services to prevent crime, enhance trust, and ensure safety for all

## Innovation

We will leverage partnerships and technology to improve services, decrease crime and increase efficiency

## Engagement

We will build community trust and mutual understanding by enhancing community engagement strategies within the framework of community-focused policing





# Priorities

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## Safety

We will provide constitutional and community-focused policing services to prevent crime, enhance trust, and ensure safety for all

*sUAS benefits can provide additional safety for our residents and visitors*

## Innovation

We will leverage partnerships and technology to improve services, decrease crime and increase efficiency

*sUAS provides opportunity for increased efficiency, reduced number of officers for certain assignments, and more professional service*

## Engagement

We will build community trust and mutual understanding by enhancing community engagement strategies within the framework of community-focused policing

*GRPD to hold community meetings to educate and collaborate with our City moving forward (sUAS falls under Administrative Police 15-03)*



# Why are they needed?

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- As illustrated before creating a UAS program within the Grand Rapids Police Department will offer an opportunity for a safer community by leveraging technology to increase efficient deployment of resources.
  - Reducing the time of road / freeway closures for traffic reconstruction.
  - Increasing the accuracy and efficiency of crime scene reconstruction
  - Increasing the safety of participants of large events (Riverbank Run / Grand Rapids Marathon).
  - Reducing the level of Government Intrusion (Kg tracking teams / search and rescue operations)



# sUAS- (Small Unmanned Aircraft Systems) what are they?

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## Platforms



Mavic 3 Enterprise  
Series



Matrice 30T



Matrice 300 RTK



## Size (Mavic series)





# Privacy Concerns

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- sUAS will be mission driven.
- Will not be used for:
  - Spying
  - Routine surveillance
  - Harass, intimidate or discriminate against any individual or group
  - Weapon deployment
- In accordance with City Surveillance Policy (15-03)



# What you can and can't see





Teleoperator, listening on  
**Live911**, launches drone  
based upon the audio of  
the 911 call





# sUAS immediate benefits

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- Efficient deployment of resources.
- Augmentation to limited staffing/ personnel.
- Reconstruction- NHTSA estimates an urban freeway closure to have a \$6,800/ minute cost to commerce (\$1,064,880). A UAS opens the freeway in a fraction of the time.
- Green initiative: (NHTSA), freeway closure averages 2.6 hours and cost \$104,519. Of this \$97,908 is lost wages/ value of time. \$6,601 expenses related to pollution (CO2, Nox, PM2.5, SO2, excess fuel burned).
- Direct GRPD call-in savings: \$11,880/ annually
- Quality of evidence increased while increasing safety. Road Safety Audits and speed studies will be safer and more accurate
- Safety (officer and public) increased. The Thermal camera is the best example. Identifying people in the river or hidden in yards/ parks
- Use at large events River Bank Run, 4<sup>th</sup> of July Fireworks (+20K participants)
- Hazmat incidents: train derailments, spills/ crashes, industrial fires/ leaks



# Starting a sUAS Program

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- 333 exemption / Certificate of Authority
- FAA Part 107 Airmen Certificate
- Insurance options



# Deployment (per revised 15-03 policy)

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- sAUS will be piloted by Sworn Personnel and Forensic Technicians
- Missions are restricted to COA (Federal Aviation Administration Certificate of Authorization)
- Traffic crashes/ reconstruction
- Evidence collection
- Search and Rescue (missing persons, suicidal subjects)
- Large area searches
- Critical incidents, fleeing suspects, training tool
- City Manager Extenuating Circumstances
- Disasters (natural or man-made)
  - Floods to train derailments



# Video / retention

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- All flights are recorded
- Video retention consistent with the law
- Current video retention schedule:
  - Arrest: 365 days
  - Misdemeanor: 2555 days
  - Felony: 7300 days
  - Incident/ non-event/ stop/ default: 120 days



# Crash reconstruction





# Evidence quality

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UAS

VS

Current camera





Photogrammetry- hundreds of images combined to create this

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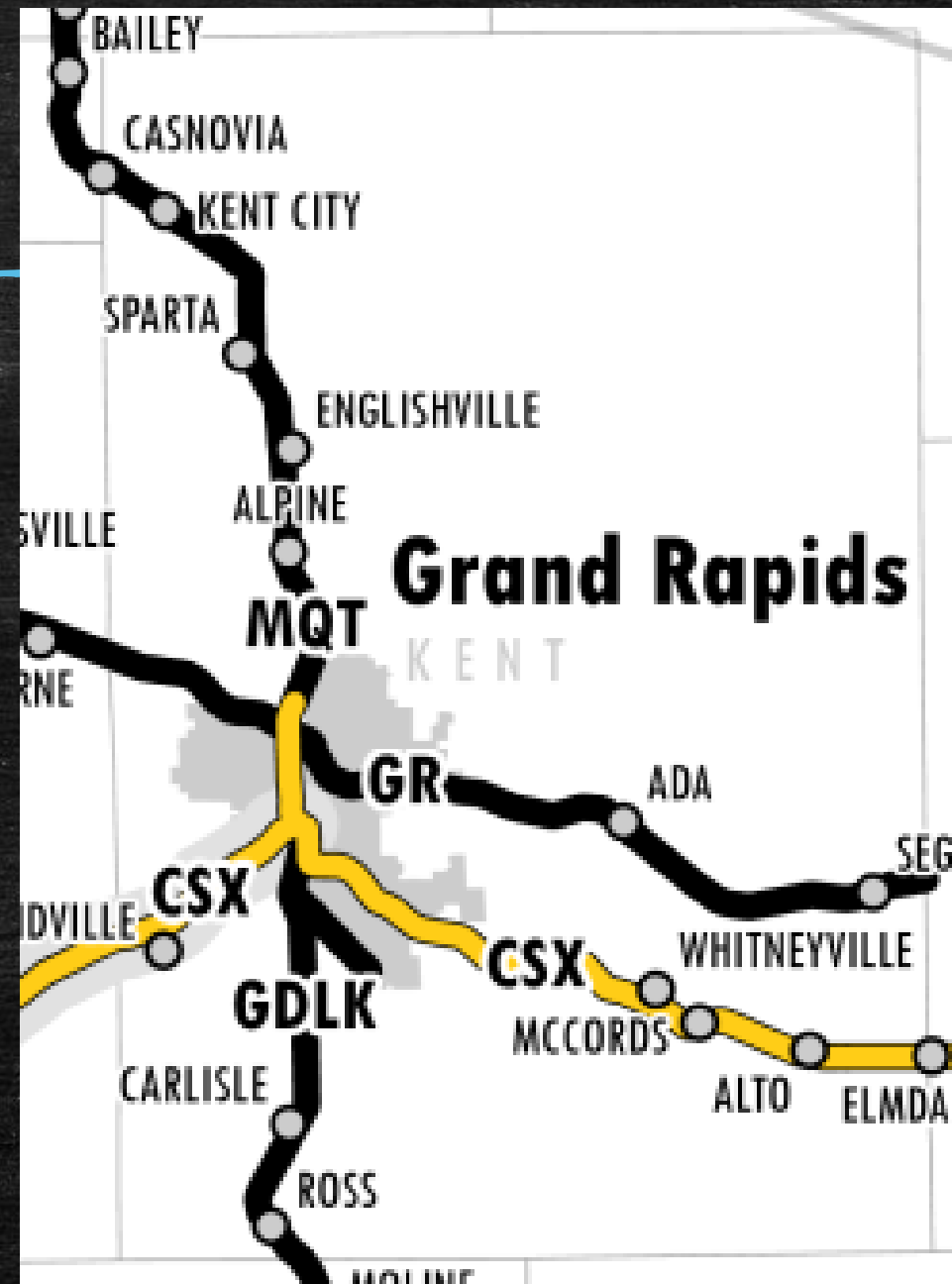
# Kent County Rail Map

## 5 Rail companies in GR:

CSX

GR Eastern Marquette  
Rail Cooperville/ Marne  
Rail  
Grand Elk

Collectively ship 6M  
tons of hazardous  
waste annually.





# Search & Rescue- Infrared and thermal cameras

Drowning victim-8ft deep



Thermal-Suspect hiding



Child (fetal pos) at night

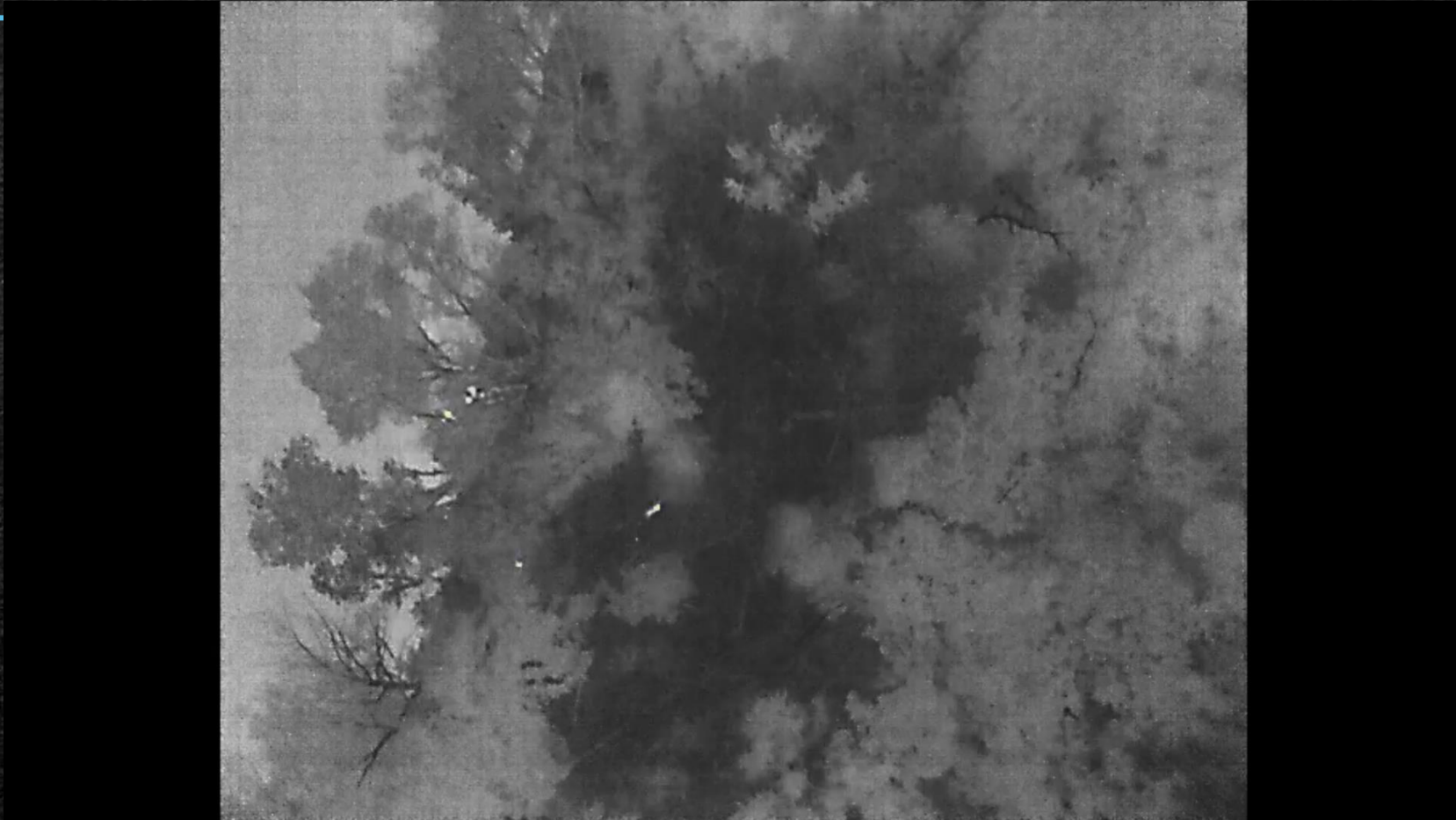


## Grand River – Locate - Arrest





# Grand River Arrest- 2<sup>nd</sup> UAS clip





# Compiled Video Clips

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# Documentation

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- All deployments will have:
  - Reason for the flight
  - Time, date and duration
  - Flight path
  - Operator(s) name
  - Flight summary/ synopsis
  - Video tagged and stored



# Cost – Capital Asset

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- \$100,000
  - (2) DJI Matrice 30T
  - (4) DJI Mavic 3 Enterprise
  - Initial training/ Part 107 certifications
  
- Annual reoccurring expenses
  - Data storage \$/ FOIA
  - Maintenance, certifications, training \$20,000



# Next Steps

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## **Request for Public Safety Committee to set public hearing**

If approved, GRPD to conduct outreach and hold public information sessions (April/May) prior to hearing.  
Draft policy, informed by outreach will be presented to Commission.

Presentation to Fiscal Committee following hearing  
(Estimated cost \$100,000)



# Questions?

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**NOTES** **IDEAS** **SUGGESTIONS** **REVIEWS** **INQUIRIES**  
**FEEDBACK!** **OPINIONS**  
**QUESTIONS** **COMMENTS**  
**RECOMMENDATIONS**